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Cover Page Footnote
The recent excavations within Saratoga National Historical Park were initiated at the request of Dick Ping Hsu, Archaeologist for the North Atlantic Region of the National Park Service. Each season of excavation was jointly sponsored by the Park and by Rensselaer Polytechnic Insitute, and over 30 students and volunteers participated in 1985 and 1986. The staff of the Park assisted greatly in coordinating field work, most notably S. Paul Okey, Park Historian, W. Glen Gray, Park Superintendent, William Gibson, former Park Ranger, and William Bazan, Chief of Maintenance. Encouragement also came from the Price and Burdyl families, former owners of the excavation site. This article is a revision of a paper presented at the 1986 annual meeting of the Council for Northeast Historical Archaeology.

THE AMERICAN HEADQUARTERS FOR THE BATTLE OF SARATOGA

David R. Starbuck

Two years of excavation have been conducted at the site of the American Headquarters for the Battle of Saratoga. Performed under the terms of a cooperative agreement between the National Park Service and Rensselaer Polytechnic Institute, this survey effort has successfully located the foundation of the Ephraim Woodworth farmhouse, what appears to have been the Woodworth barn, a well that was behind the farmhouse, and a lengthy French drain that curved around the buildings on three sides. These features appear to be the only physical remains that have survived from the headquarters complex of General Horatio Gates, who occupied these farm buildings at the time of the battle. While it was the military significance of this site which originally prompted these excavations, the majority of the evidence recovered is more useful in shedding light on the appearance of upland farms in New York State in the late 18th/early 19th centuries.

Il s'est effectué durant deux ans des excavations à l'emplacement du quartier général américain pour la bataille de Saratoga. Ces travaux, menés dans le cadre d'une entente coopérative entre le Service des parcs nationaux et l'Insitutut polytechnique Rensselaer, on réussi à localiser la fondation de la maison de ferme d'Ephraim Woodworth, ce qui semble avoir été l'étable de Woodworth, un puits situé derrière la maison et un long drain qui décrivait une courbe autour des bâtiments sur trois côtés. Ces éléments contituent, semble-t-il, les seuls vestiges physiques qui aient survécu du quartier général Horatio Gates qui occupa les bâtiments de l'endroit au moment de la bataille. Même si c'est l'importance militaire du site qui a primitivement poussé à faire ces excavations, la majeure partie des choses recouvrées sont plus utiles par la lumière qu'elles jettent sur les fermes des hautes terres de l'Etat de New-York telles qu'elles existaient à la fin du XVIII^e^ et au début du XIX^e^ siècle.

Historical Background

The year 1777 represented a critical point in American history because, a year after the Declaration of Independence, British forces were still expecting to bring hostilities to a speedy conclusion. American forces had yet to win a major victory when a force of about 8000 British, Hessian, and Canadian troops left Canada in July of 1777, planning to split the northern colonies as they traveled down Lake Champlain, Lake George, and the Hudson River en route to Albany. Under the command of Lt. General John Burgoyne, this army expected to receive provisions and recruits from Tories along the route, and they did not anticipate serious resistance from the less-experienced Continental Army or from the militias of neighboring colonies. Furthermore, a second British army under Sir William Howe was to have pushed north from New York City, advancing up the Hudson, and a third British army, under Lt. Colonel Barry St. Leger, was to have come down the Mohawk River from Lake Ontario, conquering Fort Stanwix en route to Albany.

While this three-pronged attack upon Albany may have been sound military strategy, the plan quickly unraveled because Howe's army never left New York City, and St. Leger's troops were unsuccessful in their seige of Fort Stanwix (Hanson and Hsu 1975). Burgoyne thus proceeded south, unaware that his force would ultimately be alone when they encountered stiff American resistance in Saratoga. The events that followed have been

intensively documented both in contemporary accounts and in subsequent histories (Burgoyne 1780; Wilkinson 1816; Lossing 1851; Stone 1895; Luzader 1975; Elting 1977); many generations of American historians have referred to the battles in Saratoga as the "turning point" of the American Revolution because they prompted France's entry into the war.

As Burgoyne's troops sailed down Lake Champlain, encountering limited resistance at Fort Ticonderoga and Mount Independence, an equally large American force under Major General Horatio Gates had ample time in which to construct defensive earthworks on Bemis Heights on the west bank of the Hudson. This point of high ground, located just north of the small village of Stillwater, was the site of scattered upland farms as well as a tavern belonging to Jotham Bemis. It was on September 19, 1777, that the two forces first clashed on the fields of one of these farms, and the ensuing engagement has since been termed the "Battle of Freeman's Farm." This action proved inconclusive, but the British and Germans remained on the field at the end of the day, and they proceeded to construct their own earthworks facing the American line. These consisted of several large redoubts joined by long earthen and timber barriers that snaked across the landscape. Regimental camps were set up behind these, with a few hundred men in each camp. Many of the officers on each side occupied local farmhouses while troops were quartered in tents.

"Digging in" proved a fatal strategy for the British and their allies because American forces steadily increased in number as militia units arrived from New York, New Hampshire, Massachusetts, and Connecticut, ultimately swelling the revolutionary side to over 20,000 men. At the same time, the British were short on provisions—a raiding party dispatched to Bennington to procure supplies had been defeated and captured on August 15—and the expected Tory sympathizers did not appear. Finally, on October 7, a force of about 1700 British and Germans under Brig. General Simon Fraser marched out to probe the American lines in an area that is now called the "Barber Wheatfield." American riflemen under Colonel Daniel Morgan struck at them from under the cover of woods and proceeded to cut them down. General Fraser was among those who were hit, and, after being carried from the battlefield, he died that night in the house of the nearby Taylor farm. The British army was forced into retreat. In another six days they decided to capitulate, and on October 17 they formally surrendered and laid down their arms. Thus ended the ill-fated British expedition, earning them the unfortunate distinction of having become the first British army in world history ever to surrender in the field.

From the standpoint of history, this ended hostilities in the North, France entered the war on the side of the Americans, and all fighting shifted to the southern colonies. In the space of a month, however, the two sides had created what is now a vast archaeological site, spread out over thousands of acres and including two battlefields, the foundations of many farmhouses and barns that were occupied during the battle, lengthy defensive lines, and many campsites and redoubts. These sites are now incorporated as Saratoga National Historical Park, a 2600-acre park

administered by the National Park Service, which interprets the landscape based upon its 1777 appearance.

Past Archaeology at the Saratoga Battlefield

The farms that once made up the battlefield areas were acquired by the State of New York beginning in 1926, and ownership was transferred to the federal government in 1938. While much collecting occurred here immediately after the battles ended and throughout the 19th century, it was not until the period of federal ownership that archaeologists were brought in to locate specific sites for the sake of public interpretation. Robert Ehrich worked here in 1940–1941 with laborers from the Civilian Conservation Corps, exposing sections of the British and American lines together with the Balcarres and Breymann Redoubts (Ehrich 1942). Ehrich, as well as later archaeologists, relied heavily upon a map prepared in 1777 by British Lieutenant James Wilkinson, and a major objective of his early excavations was to test the accuracy of Wilkinson's map. During the course of his excavations, Ehrich not only dug along the defensive lines but also located several skeletons (which he promptly reburied without marking their locations).

In subsequent years John Cotter excavated in the Balcarres Redoubt and on the site of the Neilson farm, one of those occupied by American officers (Cotter 1957, 1960). Between 1958 and 1964 Cotter and Edward Larrabee, working independently, each dug sizable portions of the yards surrounding the Schuyler House in nearby Schuylerville (Cotter 1958; Larrabee 1960). Neither succeeded in locating foundations of the mansion built by General Philip Schuyler in the mid-1760s. (This was burned by the British on October 11, 1777, during their retreat.) Both archaeologists exposed wells, outbuilding foundations, root cellars, and ditches, however, revealing a pattern of intensive property use from the mid-18th century up until the present, but with no remains pertaining specifically to 1777 and the battles.

More recently, teams from the State University of New York at Albany, under the direction of Dean Snow, conducted in Saratoga one of the first extensive mapping projects ever to be undertaken at any major historic battlefield in the United States (Snow 1977, 1981). Between 1972 and 1975 Snow relied heavily upon low-level aerial photographs as he prepared a series of base maps that documented roads, earthworks, foundations, and walls at the time of the battles. Snow did considerable digging in order to clarify structural details on his maps, and he excavated within the Balcarres, Breymann, Bemis Heights, and "Great" Redoubts, as well as along the British fortification wall in the vicinity of the 21st Regiment encampment (Snow 1972, 1973–4). He also recovered two human skeletons from within redoubts and excavated within the foundation of the Taylor farmhouse, the site of Simon Fraser's death. The Taylor house was just above the floodplain on the west bank of the Hudson, approximately 51.5 m (170 ft) lower than the farms on Bemis Heights.

History of the American Headquarters

While these years of digging pinpointed the location of many of the most distinctive historical features

within the park, clearly there was a strong bias in favor of testing the British redoubts. American battle lines were relatively neglected, principally because funds had not been appropriated with which to buy large farming areas on Bemis Heights. This changed in late 1984 when the lots that contained the American Headquarters—Lots 13 and 14 of the Saratoga Patent—were added to the park and became available for excavation and interpretation. This area is just south of Routes 32 and 423, a modern highway that lies approximately on top of the earlier "Road to Bemis Heights." The Bemis Tavern, in use at the time of the battles, lay a few thousand feet east and downhill from here.

Sometime prior to 1777—but not prior to the 1760s—a weaver, Ephraim Woodworth, leased these fields and proceeded to build a house, barn, and outbuildings. It appears probable that this was one of the better farms in the region, not only because Gates and his officers chose to use it as their headquarters throughout most of the engagement, but also because a later visitor, Benjamin Silliman in 1819, stated that "From the style of the panel-work and finishing the house appears to have been in its day one of the better sort—the panels were large and handsome and the door was still ornamented with brass handles" (Stone 1895: 117).

The Woodworth family departed when American troops arrived to begin work on their defensives. While this was not the only farmhouse that Gates occupied during the course of the battle, it nevertheless was here where the Indians on the American side brought British prisoners for interrogation each morning, and here where Gates and General Benedict Arnold quarreled after the battle of September 19 because Arnold felt soldiers of his own division had not received the credit due them in Gates' official report to Congress. After Arnold stalked out of the Woodworth farmhouse on September 22, he repeatedly defied Gates' authority and so was relieved of his command, only to reappear on October 7 when he led American troops in charges on British redoubts.

Among the primary sources that refer to the Woodworth farm, some note that the American Field Hospital was situated inside the Woodworth barn. The most detailed of these is a later visitor's account, by General Epaphras Hoyt, who described the mass burials nearby:

> A small distance east of the [Woodworth] house, ast [*sic*] the time of the battles, stood a barn in which many of the wounded were deposited; but the foundation only remains to mark the spot. [In] The fields . . . adjacent here the bones of many a patriot who died of wounds received in the two actions of the 19th of September and 7th of October, rest in obscurity. My companion pointed out the spot where twenty-eight of these heroes were interred in one grave; and near this spot the veteran Col. Breyman and Sir Francis Clark, Burgoyne's aid-de-camp, mortally wounded and taken prisoners in the second action mixed their remains with their brave conquerors. (Stone 1895: 185)

There is ample evidence that further supports placing the hospital in this spot. For example, one account claims that Clark and Gates had an interesting exchange here prior to the former's death: "in the field was Gates's headquarters, and up to the right of it was the hospital. Here Gates stayed during the second day's battle, and here he had the heated argument with Sir Francis Clerke [*sic*], a wounded prisoner, over the merits of the questions at issue between the Americans and British"

(Brandow 1919: 501). Yet another reference to the hospital comes in the form of a letter from a young Hessian chaplain, Feldprediger Milius, to his father. The letter, dated November 20, 1777, describes wounded Hessian soldiers being treated in the American Hospital before they died and were buried nearby (Milius 1777). Sources such as these are strong evidence that the remains of Americans, Hessians, and British were combined in mass burials in the fields of the Woodworth farm, probably within easy carrying distance of the Woodworth barn.

After the battle on October 7, American forces moved north, pursuing Burgoyne's army in its retreat. Bemis Heights, after less than a month of occupation by the American army, ceased to have a military function, and some of the farmers returned. The Woodworths were not among these, however, and their family farm went into decline. Still, its reputation as the American Headquarters—the site where Gates and his officers planned their successful strategy—lingered on, and numerous early 19th-century travelers visited the house and commented on its appearance. In 1819 only one room was still in use, occupied by a cooper and his family (Stone 1895: 117), and the end finally came in 1829 when the house was razed (Sparks n.d.; Luzader 1973: 22). The date of the barn's destruction is unknown.

Still later, Benson Lossing visited the site in 1848; using information supplied by a neighbor, Charles Neilson, he published sketches of the former house and barn (Lossing 1851: 46; FIG. 1). In 1924 the Neilson family printed and sold their own map of the Bemis Heights area (FIG. 2), and the two sets of drawings are remarkably similar in showing the Headquarters and Hospital (farmhouse and barn) side by side, south of the Road to Bemis Heights. The Lossing sketches are especially useful in that they portray the Headquarters with two stories, doors on the east and south, and with a well just outside the southern door.

The last map to portray the Headquarters foundation was also the only one with an accurate scale. This was a map drawn by the surveyor Edward West in May of 1926 for the New York State Conservation Commission. It clearly portrays a foundation that is labeled "Remains of Foundation of Gen. Gates Headquarters," and this was the last time the foundation was recorded before it slipped from view beneath the topsoil of the field. As for the Hospital, there was no reported sighting of its foundation after about 1820, suggesting that its foundation was not as substantial as that of the Headquarters. From this time on, both of the foundations were effectively lost, although—subsequent to excavations in 1985 and 1986—a farmer who had owned these fields prior to 1951 reported having plowed up stones and bricks in this area. He also was able to point out the former location of a spring several hundred feet southeast of this spot (Tony Burdyl, personal communication, 1986). Both documentary and oral history were thus relatively precise in suggesting places in the field where archaeological testing was warranted.

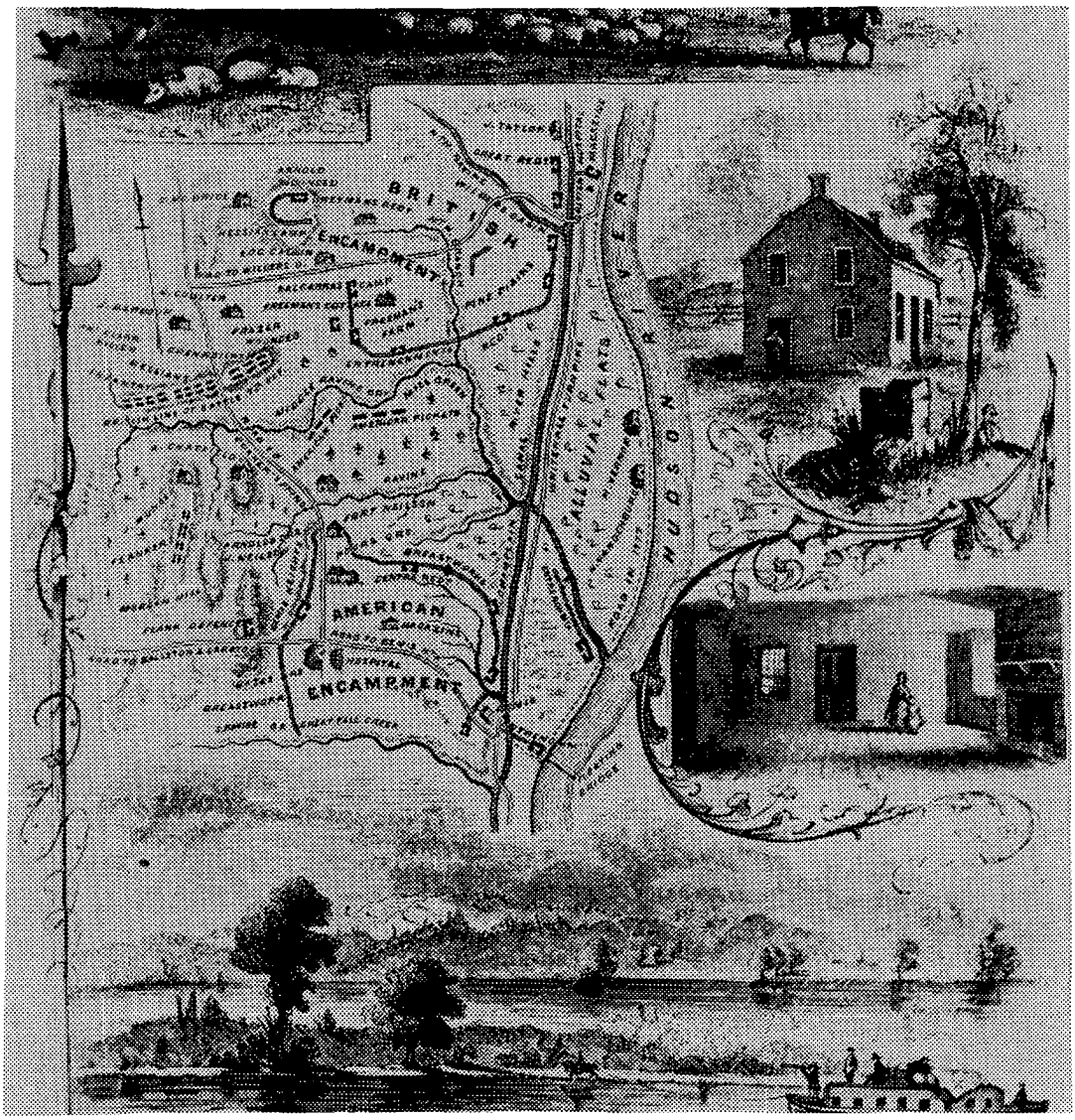

Figure 1. Plan of the American Headquarters (left) and views of the Woodworth farmhouse (right). Note the close proximity of "GATES HRS" and the "HOSPITAL" to each other (Lossing 1851: 46).

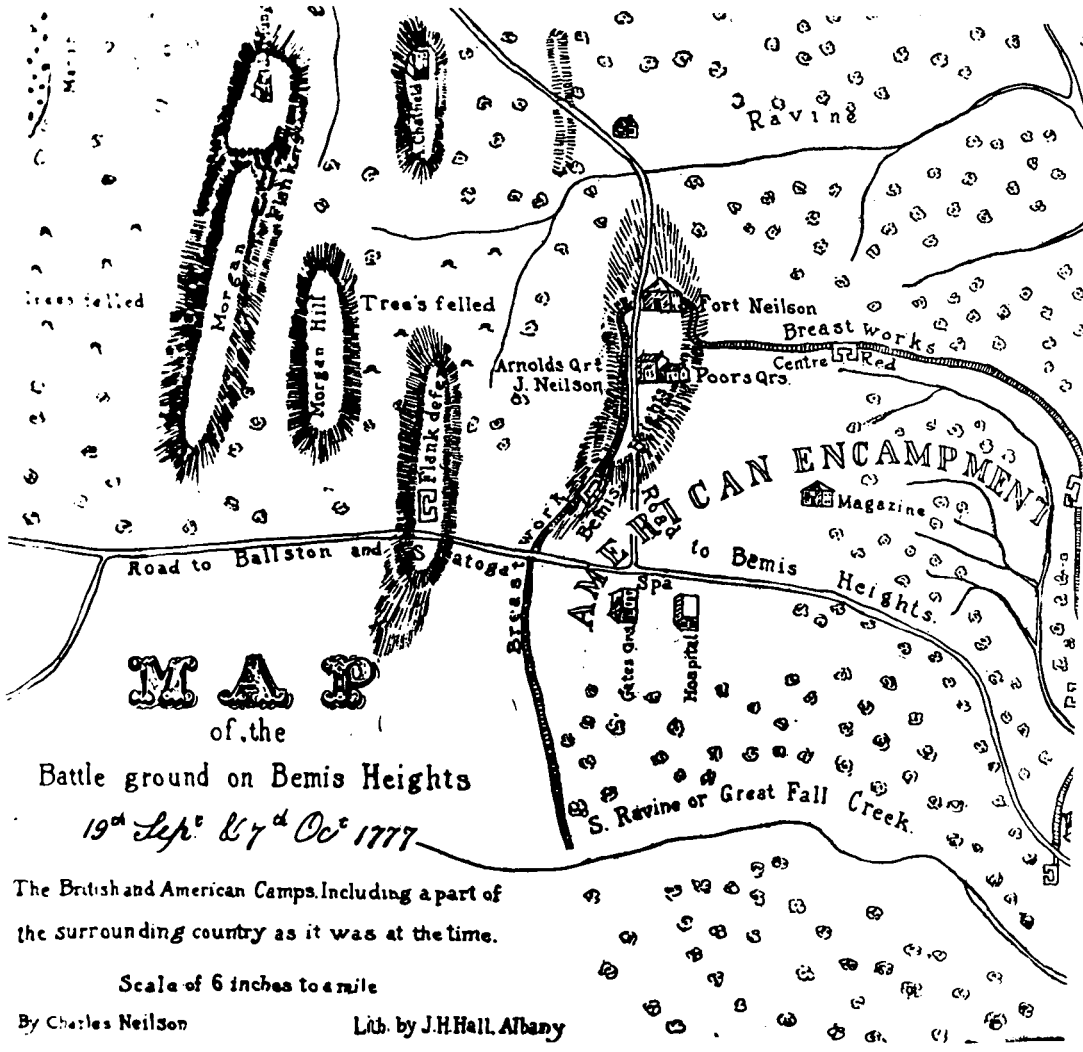

Figure 2. Detail from "Map of the Battle ground on Bemis Heights 19th Sept. & 7th Oct. 1777." Gates' Headquarters and the American Hospital are portrayed side by side in the center of the map, just south of the Road to Bemis Heights. Drawn by Charles Neilson. Lith. by J. H. Hall, Albany. 1924.

Project Research Design

Field work conducted on other notable sites of the Revolutionary War era includes excavations at Fort Stanwix (Hanson and Hsu 1975), the New Windsor Cantonment (Fisher 1983, 1984–5, 1986), and Valley Forge (Parrington 1979, 1979–80). The Saratoga Battlefield is somewhat atypical in that it contains a great diversity of military features within its borders. While many of the central battlefield areas had already been tested, however, the setting of the American Headquarters was some distance away, and the site had been left relatively undisturbed. The Woodworth farm was clearly very tangential to the actual fighting, and the officers here were positioned ca. 1.7 mi (ca. 2.7 km) from the battle on September 19 and ca. 1.3 mi (ca. 2.09 km) from the second battle on October 7. Gates was flanked by American units on the north, west, and east, but against his back, to the south, was a deep ravine on Great Fall Creek (FIGS. 1, 2). Gates could not be outflanked, but neither could he retreat. This raises the question of whether Gates chose this farm setting because it was in an easily defensible position or because it was as far as possible from the actual conflict.

In discussions with Saratoga National Historical Park officials it was decided that the work to be conducted here in 1985–1986 would have as its primary objective the location of foundations of the Woodworth farmhouse and barn, as well as any associated burials. If successful, this would lead to the subsequent erection of interpretive signage, markers to indicate the limits of each foundation on the ground surface, and, perhaps, to the eventual rerouting of the Park's tour road so as to loop around the Headquarters site.

Beyond identifying the location of the farm buildings, there was the larger question of whether or not evidence of the military occupation would exist as discrete, identifiable components within the debris resulting from 220 years of farm occupation. Because the Woodworth farmhouse had been occupied for 10–20 years before the battle and for 52 years afterward, it seemed extremely unlikely that significant numbers of "military" artifacts would be found inside a cellar hole that had been filled in 1829 or shortly thereafter. The barn appeared to be a better candidate for testing because that building had been removed earlier, and its foundation might therefore contain less material from later time periods. At the same time, barns oftentimes have insubstantial foundations, making them somewhat more difficult to locate.

This suggested that a testing strategy was needed that would serve to locate evidence of other outbuildings or lesser features (e.g., privies and trash pits)—contexts that would have been in use relatively briefly, but which might have been made and used only at the time of the military occupation. Items of standard military issue or buttons from uniforms would help to confirm whether any foundations located here were from buildings that had been occupied by the military at the time of the battle, whereas the dating of domestic artifacts would tend to confirm whether these had been the Woodworth farm buildings. An explicit goal from the outset was to recover artifacts that

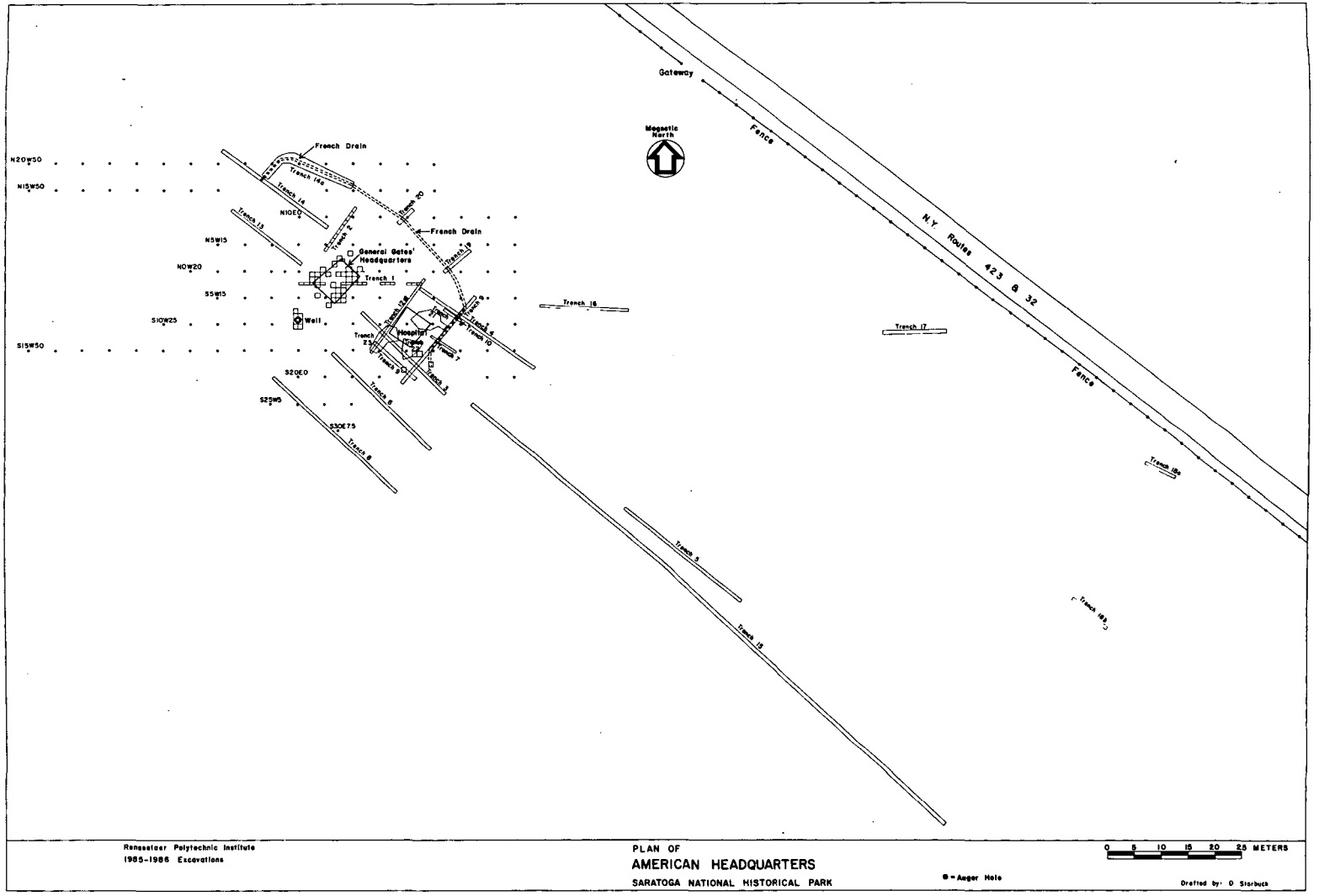

Figure 3. Rensselaer Polytechnic Institute excavations at the American Headquarters and Field Hospital, 1985–1986.

proved the presence of officers so that these could then be contrasted with remains recovered from campsites occupied by enlisted men.

In 1985 the testing strategy began with a magnetometer survey that was conducted at 5-m intervals atop the highest rise in the field south of Routes 32 and 423. This was not followed up by readings taken at closer intervals because a high iron content in the soil produced virtually identical magnetometer readings throughout the field. The excavation of shovel test pits was equally fruitless because the field consisted of clay hardpan that shovels could not penetrate. Finally, a tractor-mounted power auger was used to drill some 119 holes at 5-m intervals on a systematic grid (FIG. 3), presupposing that the presence/absence of artifacts would establish where human occupation had been most intensive. This was a somewhat more successful technique and revealed scatters of ceramics and bricks in the same area where woodchuck holes were bringing up stones (Starbuck 1986). However, the clay hardpan was still making it impossible to open up horizontal exposures that would reveal more diagnostic features.

Backhoe trenching was then introduced in order to provide more conclusive evidence for foundation walls. In 1985, excavations in Trench 1 successfully located two foundation walls from a single structure (FIGS. 3, 4), both substantial enough to be interpreted as the remains of a house rather than a barn or other outbuilding. Test pits measuring 1 sq m (3.3 sq ft) on a side were then used to expose larger portions of the building and to clarify its stratigraphy. Some 7 m (ca. 23 ft) south of the house, rocks and artifacts that woodchuck holes brought to the surface revealed the location of the original Woodworth well, and this, too, was excavated.

Backhoe trenching continued in 1986 in an effort to find the barn foundation, and 24 backhoe trenches were excavated across the northern part of the field (together with several short trenches further to the south, not shown in Figure 3). Most of these were placed in close proximity to the foundation that had already been located, relying upon the tendency of farm buildings to be tightly nucleated. A series of trenches was placed in the area just east of the first foundation because both the Lossing and Neilson maps (FIGS. 1, 2) indicated that this was where the Hospital should have been. Trenches were also used to test every other point of high ground in the field (Starbuck 1987).

For most of the 1986 season the trenching failed to produce significant results, although a thin scatter of artifacts was found about 15 m (ca. 50 ft) east of the first foundation; this was made up of objects very similar in age and appearance to those already being recovered from the excavation to the west. A long, curving line of stones was also located, flanking the site on the west, north, and east. This linear feature has the characteristic appearance of a French drain, consisting of loosely packed stones through which water was able to flow more easily than in the surrounding clay subsoil. In spite of the backhoe trenching, no evidence was found for mass burials (or even solitary burials), suggesting that bodies had either been removed and reburied elsewhere after the battle was over, or

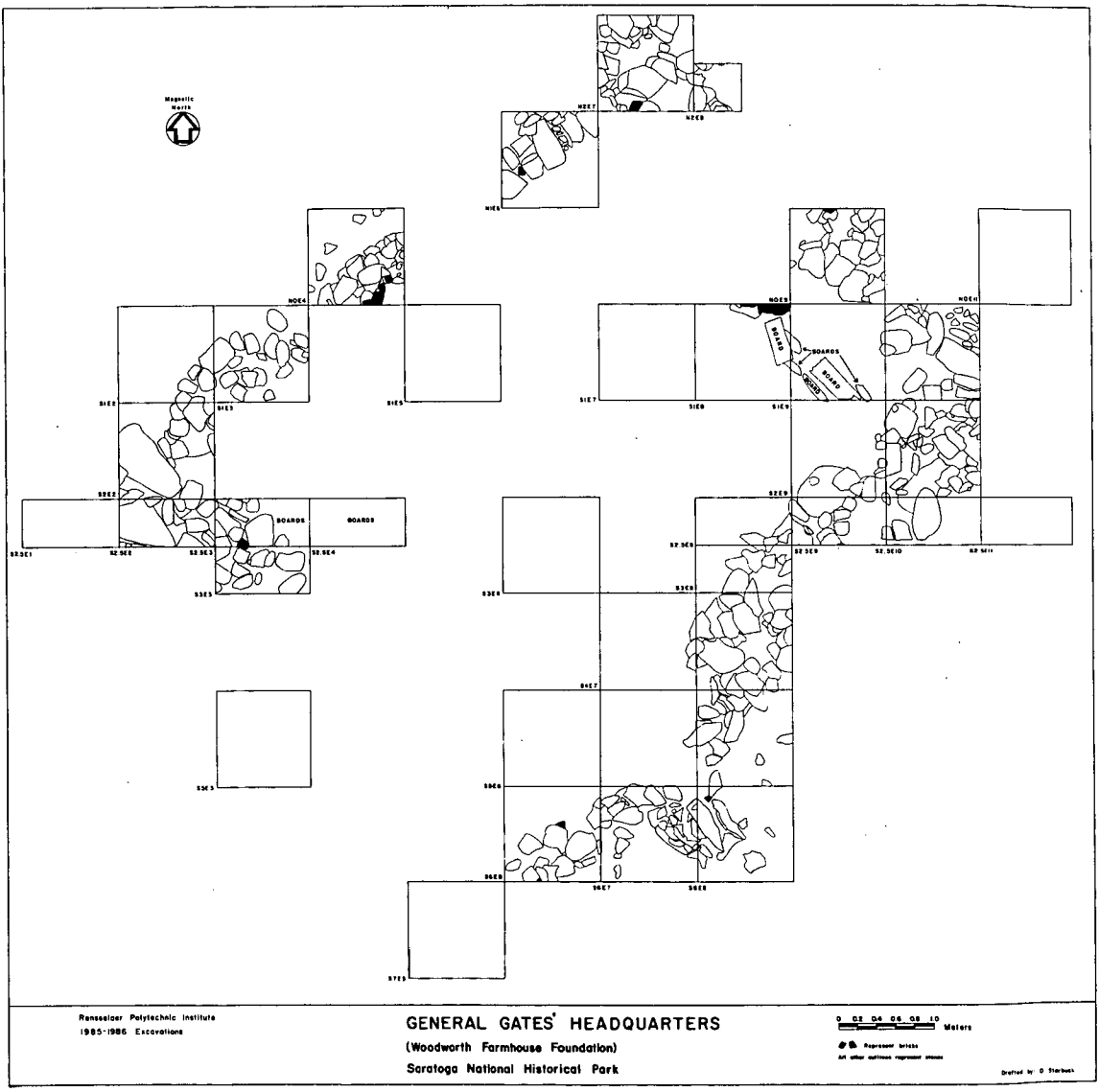

Figure 4. General Gates' Headquarters (the Woodworth farmhouse foundation).

else that burials had been interred in a more distant field.

Finally, during the last week of the 1986 season, backhoe trenches exposed three small clusters of stones only about 11–16 m (ca. 36–53 ft) east of the first foundation. Each cluster consisted of three to four stones, each stone no more than 20–30 cm (8–12 in) in diameter, and individual stones were located side by side rather than stacked on top of each other. Designated Trenches 21–23 (FIG. 3), these arrangements of stones surrounded the area where the artifact scatter had been located several weeks before. Because continuous foundation walls were not found, it appears that the weight of this structure was supported only on its four corners. Artifacts were found inside the outline created by the rough "corners" and were not present outside of this outline. Because of the excellent correspondence between these two foundations and the building locations shown on the Lossing and Neilson maps, and because the more westerly site has a substantial foundation and cellar while the easterly one does not, it is argued that these two foundations represent the Headquarters and the Hospital, respectively.

The American Headquarters (Woodworth Farmhouse)

Thirty test pits and one backhoe trench (Trench 1) were dug in the vicinity of the American Headquarters, but only 18 pits were dug within the cellar hole itself. The tops of the foundation stones were found at the base of the plow zone, generally at 30 cm (12 in) below the surface of the field (FIG. 5). The upper portion of the deposit consisted of homogeneous gray clay and appeared no different from the surrounding matrix of the field. At a depth of ca. 40–45 cm (ca. 16–18 in) this changed to a layer of brick fragments and foundation stones, underlain by an exceptionally rich zone of artifacts that ranged in depth from 65 to 80 cm (26–32 in). This layer contained a great many animal bones, clam shells, pottery sherds, tobacco pipes, and much architectural debris. This material thinned out at a depth of 1 m (3.3 ft), at which point wooden boards and smaller bits of wood and charcoal were scattered over the sterile clay hardpan that lay underneath (FIG. 6).

The dating of the artifacts in the bottom of the cellar hole does not reveal any that postdate 1829, and a great many date to 20 years or more earlier. It seems reasonable to assume that the artifacts were deposited here during the demolition of the house, or at least within a few months after the removal of the house. There is no historical evidence to indicate that anyone else lived close by for quite a few years after this, and so the trash may have been left here by the final occupants of the house, the cooper and his family (Stone 1895: 117).

Because some slumpage of foundation stones has occurred, it is impossible to give precise structural dimensions. The northern wall now measures approximately 5.6 m (18.25 ft); the southern wall measures 6.6 m (21.66 ft); the western wall measures 7.2 m (23.66 ft); and the eastern wall measures 5.6 m (18.25 ft). If the house measured 20 ft (6 m) on a side, this gives 400 sq ft (37.2 sq m) as an approximate total area. Although Lossing's 1851 sketch showed doorways on the eastern and northern sides, as well as two stories and two

Figure 5. Northeast corner of the American Headquarters foundation (facing east). Each scale is marked in 10-cm units.

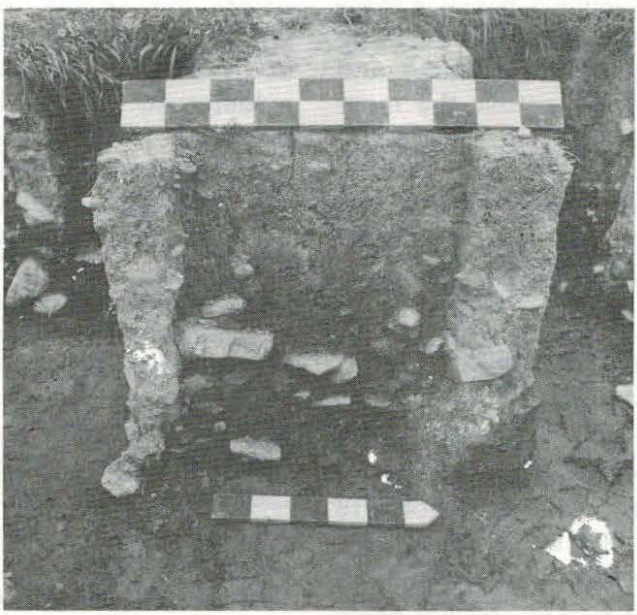

Figure 6. Stratigraphic column within the American Headquarters foundation. Note the large concentration of stone and brick rubble in the lower portion of the profile.

chimneys (FIG. 1), no confirmation for these details could be found archaeologically. Relatively few bricks were found within the cellar hole, and it would appear that nearly all intact brickbats were salvaged and taken elsewhere at the time the house was razed. Still, there were slightly higher numbers of bricks just inside the center of the western wall (chiefly in S1E5), suggesting that a fireplace/chimney may have stood there.

In order to preserve as much of the structure as possible, while establishing its outline, it was decided to expose all four corners of the foundation and relatively little of the interior. This was achieved, but given the small size of the building and the severe collapse that had occurred to foundation stones along the eastern wall, it was necessary to excavate nearly one-half of the interior (ca. 48%).

The American Field Hospital (Woodworth Barn)

The search for the American Hospital was a challenge because some barns are built with minimal stone foundations (and some are even built directly upon the surface of the ground). This meant that traces could be so slight that we might not recognize the remains of a barn even if we were digging through them. In 1985 building debris turned up in several auger holes placed at S5E20, but it did not appear to have any particular orientation. Still, this—plus the available historical maps—suggested that this was the approximate location of the Hospital. It subsequently required extremely thorough backhoe trenching in 1986, virtually blanketing the area between 5 m and 35 m (16.5–115.5 ft) east of the Headquarters foundation, before small clusters of stones were finally located that appeared to be the remains of a building.

Trenches 21, 22, and 23 exposed these stones, and moderate numbers of artifacts—chiefly ceramics and animal bones—were found in association with them. These cover an area measuring approximately 6 m (20 ft) north-south by 5 m (16 ft) east-west, downslope and directly east of the Headquarters foundation. The stones occur only as corners, and there is no evidence for complete walls here. While the evidence is not conclusive, it nevertheless appears that this was a somewhat impermanent structure, with its weight carried upon corner posts.

Only a small area has been excavated, and no artifacts have been found that specifically suggest either a barn or a hospital. This could, in fact, have been a shed or workshop, but the facts suggest otherwise: 1) this was nearly as large as the house foundation that was exposed; 2) this is exactly where Neilson and Lossing placed the barn; and 3) backhoe trenching has revealed virtually no evidence for foundation debris anywhere else in the vicinity of the farmhouse. Since the barn was the only outbuilding that was clearly described in the historical literature, this would appear to have been it. The absence of artifacts pertaining to surgical operations is disappointing, but if the barn stood for perhaps 20 or 30 years after the battles, then there is no reason to expect that either doctors' implements or amputated body parts would be left inside the building.

Figure 7. The Woodworth well, after a culvert was inserted in 1985 to prevent collapse.

The Woodworth Well

The well was found in 1985 because a woodchuck hole had exposed some of the stones on its eastern side. Seven shallow test pits were excavated around it to establish its outline, and then the excavation of the shaft commenced. The 1985 dig revealed that the uppermost 1.83 m (6 ft) were completely filled with stones, while the next 0.61 m (2 ft) were a mixture of earth and stones. Digging was halted at a depth of 2.44 m (8 ft) for safety reasons and because the water table had been reached. At that depth, boards were beginning to appear. A 5-ft-high section of culvert was installed within the shaft at the end of 1985 as a safety measure (FIG. 7); therefore it was subsequently possible to resume the excavation in 1986 and to carry it down to bedrock.

Below the 8-ft level, virtually all dirt was wet-screened, and preservation of organic material in this oxygen-free, bog-like environment proved to be excellent. While much clay and numerous stones were found below 2.43 m (8 ft), most of the matrix consisted of matted grass with only pockets of gray clay. Below 1.52 m (5 ft) the walls of the well became slightly out-flaring, but the diameter of the well measured 0.86 m (34 in) along most of its descent. It hit bedrock at a depth of 3.99 m (13.08 ft), at which point the bottom was slightly basin-shaped where it cut some 38–46 cm (15–18 in) into the bedrock. Relatively few ceramics were found inside the well (chiefly small sherds of whiteware and redware); it did contain literally thousands of bones from small mammals (skunk, squirrel, and woodchuck) that had apparently fallen in. It also contained great numbers of cherry pits and squash seeds and smaller numbers of shells from hickory nuts; it even contained a single fragment of peanut shell. Some of the more distinctive artifacts from the lowest part of the well are shown in Figures 8 and 9, including pieces of a wooden bucket, part of a red earthenware bottle, a whetstone fragment, part of the frame of

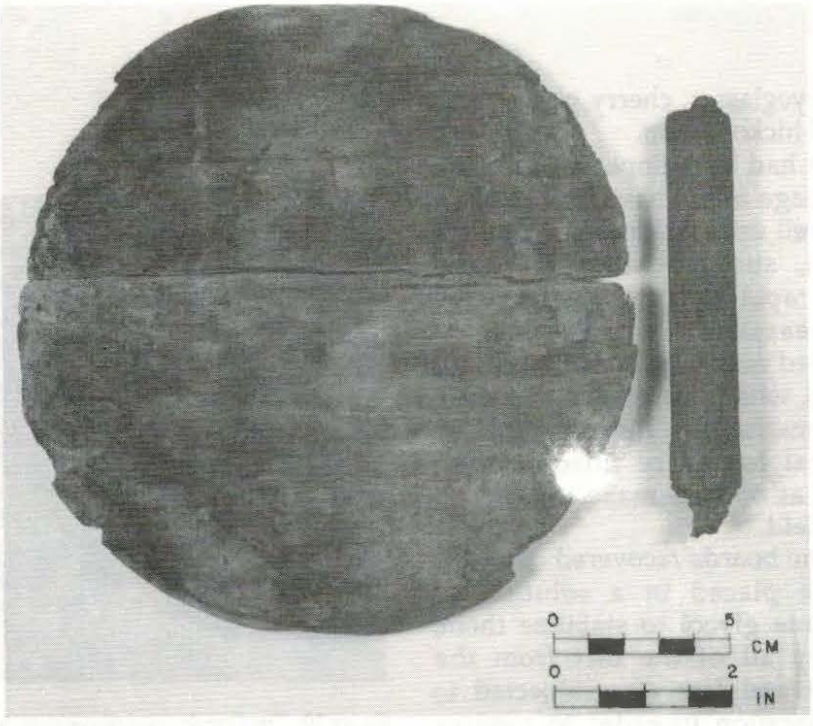

Figure 8. The handle and bottom from a wooden bucket, excavated from the Woodworth well.

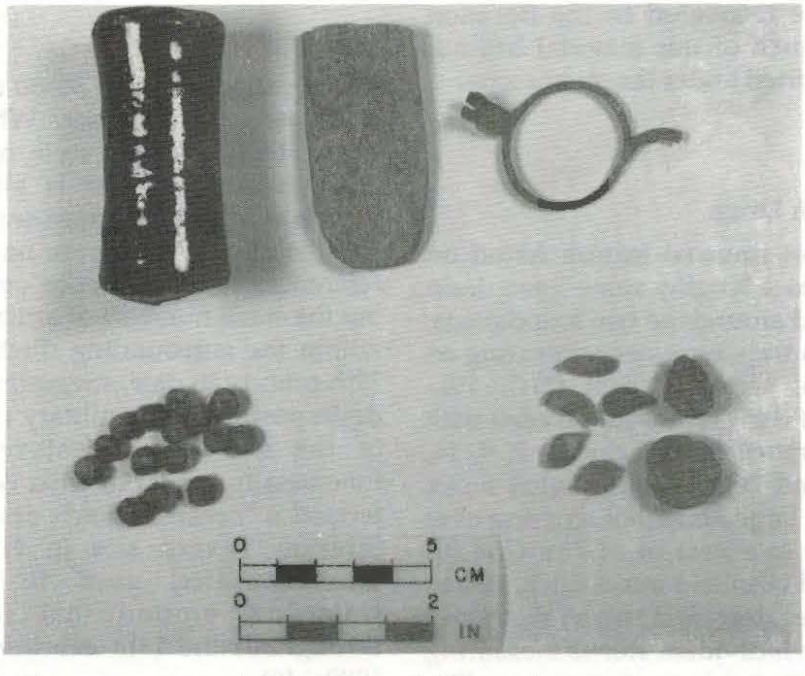

Figure 9. Artifacts excavated from the Woodworth well. Top: a red earthenware bottle neck, a whetstone fragment, and a fragment of an eyeglass frame. Bottom: cherry pits, squash seeds, and hickory nuts.

a pair of eyeglasses, cherry pits, squash seeds, and hickory nuts.

While it had been hoped that quite a bit of garbage might have been thrown into the well upon abandonment of the farmstead, such was not the case. Instead of rapid dumping, this has more the appearance of debris that accumulated naturally from the surface of the field, with grass, stones, and small animals occasionally falling in, until the last several feet were filled in with stones all at once to make it easier to plow the field.

All of the boards recovered from the well were placed in a solution of polyethylene glycol to stabilize them, and nearly all of the dirt from the bottom several feet was subjected to water separation in order to remove wood charcoal, seeds, and bones from the matrix. Because great quantities of grass were recovered in the flotation sample, much of this material has not yet been sorted under the microscope.

Figure 10. The French drain protecting the Woodworth farmhouse and barn. This view (facing south) shows the drain as exposed in Trench 9, on the eastern side of the site.

The French Drain

The most unusual feature found on the site was a lengthy stone-lined drain that curved around the two foundations, acting as a trap for water originating on the north, west, or east (FIG. 10). Portions of this drain were exposed with backhoe trenches (Trenches 4, 7, 9, 14, 14a, 19, and 20), revealing what looks like a very large horseshoe, curving over a distance in excess of 61.7 m (204 ft). Stones had been laid into a ditch, two to three stones deep and two to six stones wide, with individual stones measuring 10–20 cm (4–8 in) in diameter. The tops of these stones varied between 30–50 cm (12–20 in) below ground surface. While rather crude, this "French" style of drain—through which water is allowed to percolate between stones—was massive and ambitious. There are no historical references to its existence on this site, but the small numbers of artifacts found within the surrounding ditch were all 19th century in date, suggesting that the drain postdates the military occupation of the site. This feature appears functionally similar to what Worrell has termed a "reverse French drain" at the Stratton Tavern site in Northfield, Massachusetts, used to disperse waterflow around that farmstead throughout the 19th century (Worrell 1980: 140).

The Artifacts

Nearly all artifacts recovered were excavated from the cellar hole of the Headquarters building, and only a very few were found in the Hospital area or around the well. There do not appear to be significant chronological differences among the artifacts found at these three sites; evidence for a military occupation at the Woodworth farm was practically nonexistent. The artifacts that pertained to firearms included just six musket balls, two pieces of canister shot, one butt plate, one trigger guard, a possible worm and a possible musket tool (both badly rusted), and three gunflints (FIG. 11). One of these flints is a French-style gunflint, whereas the others were cruder gunspalls. Only the canister shot is, arguably, a product of the battle; everything else could easily have derived from strictly civilian uses. Oral tradition holds that years of collecting activity immediately followed the battles in Saratoga, and it may be that the Woodworth farm was picked over as thoroughly as the rest of the battle sites.

The most abundant ceramics excavated from the Headquarters cellar hole were pearlware (38.1%) and creamware (32.1%) (plain pearlware and plain creamware predominated), followed by redware (19.1%), whiteware (1.4%), plain stoneware (1.3%), gray salt-glazed stoneware (0.9%), porcelain (0.9%), and delft (0.4%). These are quite predictable wares to find on a rural farm site; preliminary analysis of 3675 of the sherds results in a Mean Ceramic Date of 1800.259, with most ceramics dating between 1790 and about 1810 (Paul Demers, personal communication, 1987). It thus appears that while some of these vessels could have been in use at the time of the battle, or even during the earlier Woodworth occupation, the vast majority of the ceramics were left here by the final occupants of the house at the turn of the century.

In addition, the cellar hole contained a few hundred fragments of tobacco pipe stems, most of which were late 18th century in date (with a bore diameter of 4/64 in). Curiously, there also was a unique ceramic cube (ca. 2.9 cm [1 1/8 in] on a side) with small projections on three of the six surfaces. This appears to have been a child's toy or a gaming piece (FIG. 12).

Complementing the identification of ceramic types, an x-ray fluorescence analysis was conducted on some of the sherds believed to be from locally-manufactured stonewares excavated from the Headquarters site in 1985. Based upon the small sample that was examined, it was demonstrated that the clays for many of the sherds derived from sources in New Jersey (Brooks 1987).

Given the dampness inside the Headquarters foundation, the preservation of metal artifacts was extremely poor. Much of the metal found in the cellar was building hardware (many hundreds of hand-wrought nails, smaller numbers of cut nails, and nearly a dozen hinges), but nonarchitectural items—both utilitarian and personal—were also abundant. These included some 65 whole or fragmentary metal buttons, manufactured chiefly of white metal (29), brass (27), and bronze (7); one set of octagonal cuff links made of cast bronze; and 14 buckles or buckle fragments, consisting of brass and copper-alloy shoe buckles and iron harness buckles (see Suciu 1987).

Figure 11. Evidence for firearms at the Woodworth farm. Top: a butt plate and a trigger guard. Bottom: musket balls, canister shot, a "worm," a musket tool, and gunflints.

Figure 12. Miscellaneous small finds from the American Headquarters. Top: chert biface, quartzite projectile point, chert projectile point, ceramic toy or gaming piece. Bottom: bone gouge, brass furniture plate, thimble, bone handle.

Figure 13. Bone-handled knives, forks, and a spoon excavated from within the Headquarters foundation. All are common 18th-century types.

Metal tools and kitchen implements were also quite common in the cellar, including a surprising number of bone-handled table knives and two-tined forks (six of which are shown in Figure 13), a complete spoon, a spoon bowl, and several fragments from cast-iron cooking pots or kettles. Many artifacts were rusted beyond recognition, but some of the more interesting pieces included a thimble and a brass furniture escutcheon plate (FIG. 12), the spigot from a barrel, and the complete blade (18.4 cm × 29.2 cm [7.25 in × 11.5 in]) from a large spade.

Another significant artifact category was that of worked bone, including the many bone-handled knives and forks just mentioned, a single five-holed bone button, a bone gouge (FIG. 12), and other nondiagnostic bone handle fragments. A total of six wood buttons were also recovered from the Headquarters foundation, together with several boards found at a depth of approximately 1 m (3.3 ft) in both the northeastern and southwestern corners of the foundation. These lay directly atop the sterile clay underlying the site, and their placement beneath all of the trash deposits strongly suggests that they were floor boards within the original Woodworth farmhouse. Other structural evidence inside the cellar appeared in the form of bricks, a great many plaster fragments, and numerous window panes. On the other hand, fragments of bottle glass or tablewares were practically nonexistent.

Eight coins were found in or around the cellar hole on the Headquarters site, and the most recent—a Large Cent dating to 1809 (found at a depth of 70 cm [27.5 in] within the fill of the cellar)—accords well with a cellar that would have been filled in prior to (or in) 1829. The earliest coins in the assemblage were two British Half-Pennies (both undated), followed by a

New Jersey copper cent (1787), a Massachusetts copper cent (either 1787 or 1788), and four Large Cents (dating to 1798, 1800, 1800, and 1809).

A total of 6262 bones from the house, barn, and drain have been examined; bones were especially plentiful within the Headquarters cellar. Most of these were excavated from the center and southeastern part of the cellar, just above the bottom flooring. Limb extremities and teeth were so common that Gray has argued that "the Woodworth cellarhole was used as a garbage dump for butchering waste rather than the remains of food consumption" (1988: 19). Nevertheless, there were plenty of bones from more desirable parts of the body, with many butchering marks from sawing and chopping. There is no evidence for any of these bones representing meat that was consumed by the American army; they could have been, but it is more likely that they represent waste thrown into the cellar either just before or just after the house was taken down. The bones have not yet been checked for evidence of having been salted.

Pig, cow, and sheep bones were easily the most abundant, but deer, turkey, chicken, and fish were also represented (TAB. 1). It appears that the hunting of wild animals did not form a significant addition to the diet, but a great many bones were from immature domestic animals. This suggests that most of the animals had been slaughtered as they neared full growth, probably in the fall so that they would not have to be fed through the winter. The bones from mouse, rat, muskrat, woodchuck, cat, and dog, although present, are not considered to be evidence of food consumption practices.

Table 1. Faunal remains from the American Headquarters, Saratoga Battlefield (house, barn, and drain)

*Faunal Category**	*Number of Elements*	*% of Sample*	*MNI*
Fish	9	0.14	1
Bird	310	4.95	–
Chicken	120	1.92	3
Turkey (wild)	25	0.40	3
Duck	7	0.11	1
Mammal	4540	72.50	–
Mouse	1	0.02	1
Eastern Wood Rat	16	0.26	2
Muskrat	6	0.10	1
Woodchuck	85	1.36	3
House Cat	10	0.16	1
Dog	1	0.02	1
Pig	697	11.13	13
Deer	24	0.38	1
Sheep	147	2.35	2
Cow	250	3.99	3
Horse	13	0.21	1
Human	1	0.02	1
Totals	6262	100.02	38

**Adapted from a table in Gray (1988: 18).*

MNI = Minimum number of individuals represented.

Finally, a total of three prehistoric bifaces, two of chert and one of quartzite, were excavated here; two were located within the Headquarters foundation, and the third was found in the Hospital area (FIG. 12). These may have been picked up and brought here by farmers, or they may have been dropped here by Indians who were merely passing through. None date stylistically to the time of the Revolution.

Conclusions and Future Priorities

The recent excavations in Saratoga have revealed the sites of a house, a well, a drain, and most likely a barn. Several lines of evidence strongly indicate that the house site was, in fact, the Woodworth farmhouse that was taken down in 1829. It is regrettable that archaeological evidence for the military occupation of this site is not clearer, but many years of farm occupation have tended to obscure any military patterning that might once have existed here. We have failed to locate any evidence for burials, or short-term features pertaining to the battles, or any evidence for doctors or officers. Given the brevity of the military occupation in the farmhouse and barn, this is probably not surprising. Still, we have successfully located several of the key features of an upland farm that flourished in the late 18th century but declined and was abandoned in the early 19th century.

Assuming that from 50–100 troops on both sides died in the American Hospital and were buried within these fields, further testing is warranted in order to locate these burials and any associated amputation pits that would contain evidence of surgical procedures conducted in field situations in the late 18th century. Backhoes were used to test most points of high elevation close to the Headquarters, but more distant fields still need to be checked for burials. More thorough testing should also be done in the Hospital location in order to establish whether surgery was being practiced here and to determine exactly when the barn was taken down. Finally, further testing is warranted to the west and south of the Headquarters foundation in order to learn whether additional Woodworth outbuildings extend in these directions. The fact that the French drain curves far to the west (see FIG. 3) strongly suggests that it may have done so in order to flank and protect an additional building or activity area on the western side of the farmhouse. This would have been an unusual farmstead indeed if there were not some lesser sheds or workshops nearby.

Acknowledgments

The recent excavations within Saratoga National Historical Park were initiated at the request of Dick Ping Hsu, Archeologist for the North Atlantic Region of the National Park Service. Each season of excavation was jointly sponsored by the Park and by Rensselaer Polytechnic Institute, and over 30 students and volunteers participated in 1985 and 1986. The staff of the Park assisted greatly in coordinating field work, most notably S. Paul Okey, Park Historian, W. Glen Gray, Park Superintendent, William Gibson, former Park Ranger, and William Bazan, Chief of Maintenance. Encouragement also came from the Price and Burdyl families, former owners of the excavation site. This article is a revision of a paper presented at the 1986 annual meeting of the Council for Northeast Historical Archaeology.

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